

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA

IN RE TESLA, INC. SECURITIES
LITIGATION

Case No. [18-cv-04865-EMC](#)

**ORDER DENYING MOTION TO
EXCLUDE OPINIONS OF MICHAEL
HARTZMARK**

Docket No. 451

I. INTRODUCTION

Lead Plaintiff Glen Littleton has filed a securities class action against Defendants Tesla, Inc., Elon Musk (Tesla's CEO and former Chairman), and Tesla's Board of Directors (collectively, "Tesla") based on events that took place in August 2018. Mr. Littleton alleges that Mr. Musk made false representations in multiple tweets about taking Tesla from a public to a private company. The detailed factual and legal background for Mr. Littleton's claims is set forth in the Court's summary judgment order. *See* Docket No. 387 (April 1, 2022 Order Granting in Part and Denying in Part Summary Judgment, or "April 1, 2022 Order"). This background information is recounted below to the extent relevant to the present motion.

Currently pending before the Court is Tesla's Motion in Limine No. 2 to Exclude the Opinions of Dr. Michael Hartzmark, Mr. Littleton's loss causation and damages expert. Docket No. 451.¹ For the following reasons, the Court **DENIES** the motion.

¹ Tesla also seeks to seal four exhibits cited by Mr. Littleton in his opposition to Tesla's third motion in limine. *See* Docket No. 454 (Administrative Motion to File Under Seal) at 1. The Court has previously determined that these exhibits warrant sealing, *see* Docket No. 432, and hereby **GRANTS** Tesla's motion to seal the four exhibits. The Clerk is directed to seal the exhibits found at Docket Nos. 454-3, 454-4, 454-5, and 454-6.

II. FACTUAL AND PROCEDURAL BACKGROUND

A. Factual Background

During the morning and early afternoon of August 7, 2018, Mr. Musk announced via a series of tweets that he was considering taking Tesla from a public to a private company. First, at 9:48 a.m., Mr. Musk tweeted “Am considering taking Tesla private at \$420. Funding secured.” Ex. 8 (tweet)²; Hartzmark Report ¶ 68. The tweet caused an immediate price jump in Tesla’s stock, with Tesla’s stock price shooting up to \$365.03 per share (just prior to 9:49 a.m.) from \$356.85 per share (just prior to 9:48 a.m.) in the first minute of trading. Hartzmark Report ¶ 69. Shortly after Mr. Musk’s first tweet, an email to employees was sent to employees and posted on Tesla’s website as a blog post regarding “Taking Tesla private.” Ex. 12 (website); Hartzmark Report ¶ 70. The email/blog post explained Mr. Musk’s rationale for wanting to take Tesla private and conveyed his vision for a “private Tesla.” Ex. 12 (website).

At 12:36 p.m., Mr. Musk sent out another tweet: “Investor support is confirmed. Only reason why this is not certain is that it’s contingent on a shareholder vote.” Ex. 13 (tweet); Hartzmark Report ¶ 70. At the bottom of the tweet, there was a link to the above blog post on “Taking Tesla Private.” *Id.*

There was an immediate reaction to Mr. Musk’s tweets and the blog post. On the same day that the tweets and blog post were sent out, for instance, several of Tesla’s shareholders reached out to Martin Viecha, Tesla’s Director of Investor Relations. Mr. Viecha essentially conveyed to these shareholders that there was a “firm offer.” *See, e.g.*, Exs. 58, 146, 150; *see also* Hartzmark Report ¶ 79. Analysts and journalists also began to react to the tweets and blog post. *See, e.g.*, Hartzmark Report ¶¶ 72–74 (compiling and quoting from articles published on August 7). Tesla’s stock closed at \$379.57 per share that evening, which was a statistically significant increase from \$356.85 per share, the price per share just prior to Mr. Musk’s tweets, at the 1% level. *Id.* ¶¶ 71, 77.

From August 8 to August 12, 2018, hundreds of analyst reports and news articles

² Unless otherwise noted, the numbered exhibits are found at Docket Nos. 437 and 453. Dr. Hartzmark’s report, which is Exhibit 375, is found at Docket No. 453-1.

commented on the prospective deal. *See* Hartzmark Report, Appendix 14 at 23–81 (identifying Tesla-related news articles published during that time). During this time, news sources also reported that the United States Securities and Exchange Commission (“SEC”) was probing Tesla over Mr. Musk’s tweets. *Id.* ¶¶ 78, 82, 89. By August 11, 2018, news sources reported that lawsuits were being filed against Tesla and Mr. Musk for allegedly violating federal securities law. *Id.* ¶ 102. Although Tesla’s stock price during this window fluctuated, *see* Hartzmark Report, Charts 2–4, there were no daily declines that were statistically significant at the 5% level. *Id.* ¶¶ 86, 93, 99.

On August 13, 2018, Mr. Musk posted an update on the Tesla website (as a blog post): “Update on Taking Tesla Private.” In the update, Mr. Musk stated, *inter alia*, as follows:

As I announced last Tuesday, I’m considering taking Tesla private because I believe it could be good for our shareholders, enable Tesla to operate at its best, and advance our mission of accelerating the transition to sustainable energy. As I continue to consider this, I want to answer some of the questions that have been asked since last Tuesday.

What has happened so far?

On August 2nd, I notified the Tesla board that, in my personal capacity, I wanted to take Tesla private at \$420 per share. This was a 20% premium over the ~\$350 then current share price (which already reflected a ~16% increase in the price since just prior to announcing Q2 earnings on August 1st). My proposal was based on using a structure where any existing shareholder who wished to remain as a shareholder in a private Tesla could do so, with the \$420 per share buyout used only for shareholders that preferred that option.

After an initial meeting of the board’s outside directors to discuss my proposal (I did not participate, nor did Kimbal [Mr. Musk’s brother and also a Board member], a full board meeting was held. During that meeting, I told the board about the funding discussions that had taken place (more on that below) and I explained why this could be in Tesla’s long-term interest.

At the end of that meeting, it was agreed that as a next step, I would reach out to some of Tesla’s largest shareholders. Our largest investors have been extremely supportive of Tesla over the years, and understanding whether they had the ability and desire to remain as shareholders in a private Tesla is of critical importance to me. They are the ones who believed in Tesla when no one else did and they are the ones who most believe in our future. I told the board that I would report back after I had these discussions.

Why did I make a public announcement?

The only way I could have meaningful discussions with our largest shareholders was to be completely forthcoming with them about my desire to take the company private. However, it wouldn't be right to share information about going private with just our largest investors without sharing the same information with all investors at the same time. As a result, it was clear to me that the right thing to do was announce my intentions publicly. To be clear, when I made the public announcement, just as with this blog post and all other discussions I have had on this topic, I am speaking for myself as a potential bidder for Tesla.

Why did I say "funding secured"?

Going back almost two years, the Saudi Arabian sovereign wealth fund has approached me multiple times about taking Tesla private. They first met with me at the beginning of 2017 to express this interest because of the important need to diversify away from oil. They then held several additional meetings with me over the next year to reiterate this interest and to try to move forward with a going private transaction. Obviously, the Saudi sovereign fund has more than enough capital needed to execute on such a transaction.

.... During the [July 31] meeting, the Managing Director of the fund expressed regret that I had not moved forward previously on a going private transaction with them, and he strongly expressed his support for funding a going private transaction for Tesla at this time. I understood from him that no other decision makers were needed and that they were eager to proceed.

I left the July 31st meeting with no question that a deal with the Saudi sovereign fund could be closed, and that it was just a matter of getting the process moving. This is why I referred to "funding secured" in the August 7th announcement.

Following the August 7th announcement, I have continued to communicate with the Managing Director of the Saudi fund. He has expressed support for proceeding subject to financial and other due diligence and their internal review process for obtaining approvals. He has also asked for additional details on how the company would be taken private, including any required percentages and any regulatory requirements.

Another critical point to emphasize is that before anyone is asked to decide on going private, full details of the plan will be provided, including the proposed nature and source of the funding to be used. However, it would be premature to do so now. I continue to have discussions with the Saudi fund, and I also am having discussions with a number of other investors, which is something that I always planned to do since I would like for Tesla to continue to have a broad investor base. It is appropriate to complete those discussions before presenting a detailed proposal to an independent board committee.

....

What are the next steps?

As I mentioned earlier, I made the announcement last Tuesday

because I felt it was the right and fair thing to do so that all investors had the same information at the same time. I will now continue to talk with investors, and I have engaged advisors to investigate a range of potential structures and options. Among other things, this will allow me to obtain a more precise understanding of how many of Tesla's existing public shareholders would remain shareholders if we became private.

If and when a final proposal is presented, an appropriate evaluation process will be undertaken by a special committee of Tesla's board, which I understand is already in the process of being set up, together with the legal counsel it has selected. If the board process results in an approved plan, any required regulatory approvals will need to be obtained and the plan will be presented to Tesla shareholders for a vote.

Ex. 16 (website) (bold in original); Hartzmark Report ¶ 103. Market commentary discussing the blog post was mixed: some analysts viewed the blog post as "contradict[ing] [Musk's] claim" that "funding had been secured," while others interpreted the blog post as indicating that the going private deal was "more likely than previously thought." Hartzmark Report ¶¶ 104–106 (quoting news articles and analyst reports). Tesla's stock price on August 13, 2022, continued to experience minor fluctuations (from a close of \$355.49 per share on August 10 to a close of \$356.41 per share on August 13), but there were no statistically significant changes at the 5% level. *Id.* ¶ 108.

On August 15, 2018, news sources reported that the SEC had issued subpoenas to Tesla and Mr. Musk regarding the company's privatization plans and Mr. Musk's statements involving funding. *Id.* ¶¶ 115, 117 (summarizing coverage of the subpoenas and SEC investigation). Tesla's stock price, which opened at \$341.91, declined slightly and closed at \$338.69. *Id.* ¶ 115; Chart 7. This decline was not statistically significant at the 5% level. *Id.* ¶ 120.

On August 16, 2018,³ the *New York Times* published an article on Mr. Musk and Tesla, titled "Elon Musk Details 'Excruciating Personal Toll of Tesla Turmoil.'" *See* Ex. 19 (article); Hartzmark Report ¶ 127. The article recounted an interview that the *Times* conducted with Mr. Musk. *Id.* The article stated, *inter alia*, that:

Elon Musk was at home in Los Angeles, struggling to maintain his

³ The article was published online at 8:22 p.m. on August 16, 2018, and was published in print on August 17, 2018. Hartzmark Report ¶¶ 127, 127 n.207.

1 composure. “This past year has been the most difficult and painful
2 year of my career,” he said. “It was excruciating.”

3 The year has only gotten more intense for Mr. Musk, the chairman
4 and chief executive of the electric-car maker Tesla, since he abruptly
5 declared on Twitter last week that he hoped to convert the publicly
6 traded company into a private one. The episode kicked off a furor in
7 the markets and within Tesla itself, and he acknowledged on
8 Thursday that he was fraying. [...]

9 funding, it turned out, was far from secure.

10 Mr. Musk has said he was referring to a potential investment by
11 Saudi Arabia’s government investment fund. Mr. Musk had
12 extensive talks with representatives of the \$250 billion fund about
13 possibly financing a transaction to take Tesla private – maybe even
14 in a manner that would have resulted in the Saudis’ owning most of
15 the company. One of those sessions took place on July 31 at the
16 Tesla factory in the Bay Area, according to a person familiar with
17 the meeting. But the Saudi fund had not committed to provide any
18 cash, two people briefed on the discussions said.

19 Ex. 19; Hartzmark Report ¶ 127. Following the release of the *Times* article, various news sources
20 questioned Mr. Musk’s leadership and expressed concern regarding his “erratic behavior.”
21 Hartzmark Report ¶¶ 131–32 (quoting and summarizing news sources). Tesla’s stock price
22 tumbled from a close of \$355.45 per share on August 16 to a close of \$305.50 per share by market
23 close, which was a statistically significant decrease at the 1% level. *Id.* ¶ 135; Chart 9.

24 On August 24, 2018, Mr. Musk announced via tweet and blog post on Tesla’s website that
25 Tesla would remain a public company. *Id.* ¶ 136.

26 B. Procedural Background

27 On January 16, 2019, Mr. Littleton filed the Consolidated Complaint, which is the
28 operative pleading in this case. Docket No. 184 (Consolidated Class Action Complaint). The
Consolidated Complaint included allegations regarding nine alleged misrepresentations. *See*
Docket No. 224 (Addendum to Complaint) at 1–9.

On January 11, 2022, Mr. Littleton moved for partial summary judgment as to whether
four⁴ alleged false statements at issue were false and made with the requisite scienter, among other

⁴ The fourth statement came from Mr. Musk’s August 13, 2018 blog post. The Court denied summary judgment as to this statement and subsequently precluded Plaintiffs from introducing evidence or argument related to that statement at trial because it was not included in the

things. Docket No. 352. On April 1, 2022, the Court granted Mr. Littleton’s motion in part, finding that the three August 7, 2018 statements—(1) “Am considering taking Tesla private at \$420. Funding secured.”; (2) “Investor support is confirmed.”; and (3) “Only reason why this is not certain is that it is contingent on a shareholder vote”—were false and that Mr. Musk recklessly made those representations. *See* April 1, 2022 Order at 32–33. The Court will refer to these three August 7, 2018 statements as the Musk Tweets.

On July 1, 2022, the parties submitted four motions in limine, including the instant *Daubert* motion. Docket Nos. 448, 450–452. The Court ruled on three of these motions during the hearing on July 28, 2022, and took Tesla’s motion to exclude Dr. Hartzmark’s opinions under submission. *See* July 29, 2022 Min. Entry.

C. Summary of Dr. Hartzmark’s Opinion

Dr. Hartzmark is president of Hartzmark Economics Litigation Practice, LLC. Hartzmark Report ¶ 7. Prior to that role, he served as a Principal and Director at Navigant Economics and an economics professor at the University of Chicago and the University of Michigan. *Id.* ¶¶ 7, 10.

In his report, Dr. Hartzmark examined the economic impact of the three Musk Tweets, which he defined and analyzed as a unit. *Id.* ¶¶ 4 & 4 n.8, 4 n.9. Dr. Hartzmark opined that the misrepresentations in the Musk Tweets caused a price increase of \$66.67 per share over the Class Period (which ran from August 7 to August 17). *Id.* ¶¶ 13, 169, 171. To reach this conclusion, Dr. Hartzmark conducted an event study methodology: he examined Tesla’s stock reaction to an “event”—the Musk Tweets—and statistically analyzed Tesla’s stock price movements to determine within a specified degree of certainty whether the stock fluctuations were caused by the Musk Tweets. *Id.* ¶ 34. Dr. Hartzmark also took steps to disaggregate the general decline in the stock market that occurred during the Class Period, as well as any company-specific information unrelated to the alleged misstatements (*i.e.* potentially confounding information) that could have impacted Tesla’s stock price. *Id.* ¶¶ 146–150.

Dr. Hartzmark found quantitative evidence that Tesla’s stock price artificially increased by

Consolidated Complaint and Plaintiffs had not shown good cause to amend. *Id.* at 29–30; Docket No. 466 (July 29, 2022 Min. Entry) at 1–2.

\$23.27 on August 7, 2018 as a direct response to the Musk Tweets. *Id.* ¶¶ 13, 76–77. Dr. Hartzmark characterized the initial price jump as artificial inflation due to the “direct effects” of the Musk Tweets. *Id.* ¶ 13, 171. In addition to inflation from these “direct effects,” Dr. Hartzmark opined that Tesla’s stock price also declined over the course of the Class Period due to “foreseeable consequential effects” caused by disclosures following the Musk Tweets that exposed their falsity. *Id.* ¶¶ 4, 13. These consequential effects included, for instance, Tesla’s increased legal risks amid scrutiny from the SEC and Tesla’s reduced management credibility. *Id.* Dr. Hartzmark opined that these consequential effects, which were “inextricably bound and causally-linked to the Musk Tweets,” resulted in artificial inflation totaling \$43.40 per share as of the close of trade on August 7, 2018. *Id.* ¶¶ 4, 13, 171.

Tesla charges that Dr. Hartzmark’s methodology is unreliable for six reasons. First, Tesla takes issue with Dr. Hartzmark’s “unprecedented” leakage model. *See* Docket No. 451 (Defendants’ Motion in Limine to Exclude the Opinions of Michael Hartzmark, or “Mot.”) at 5. Second, Tesla contends that Dr. Hartzmark fails to separate any loss caused by corrective information from disclosure of other company-specific information. *Id.* at 4. In particular, Tesla argues that Dr. Hartzmark fails to account for the impact of Mr. Musk’s truthful statements (*i.e.* that he was considering taking Tesla private at \$420) when considering the loss caused by the first tweet. *Id.* Third, Tesla charges that Dr. Hartzmark does not disaggregate other confounding information. *Id.* at 6–7. Fourth, Tesla argues that Dr. Hartzmark selected an inappropriate “corrective interval” that runs through August 17, 2018. *Id.* at 8. Fifth, Tesla argues that his model does not satisfy the requirement of demonstrating a statistically significant decline at the 5% level. *Id.* Finally, Tesla argues that “consequential damages” arising from “consequential effects” such as shareholder lawsuits or negative news coverage are not recoverable in a securities class action. *Id.* at 8–9.

Mr. Littleton responds that Dr. Hartzmark’s methodology and his leakage model are well-suited to evaluate loss causation given the facts of the case. Docket No. 451-1 (Plaintiff’s Opposition to Defendants’ Motion in Limine No. 2 to Exclude the Opinions of Michael Hartzmark, or “Opp.”) at 3–4. In Mr. Littleton’s view, Tesla’s criticisms regarding

disaggregation are conjecture or factual questions for the jury that go to the weight of Dr. Hartzmark's opinions, not their admissibility. Opp. at 4. Mr. Littleton also defends Dr. Hartzmark's disaggregation analysis, *id.* at 4–7, and the inclusion of consequential damages (such as reputational harm and concerns over corporate governance) that Dr. Hartzmark found were proximately tied to the Musk Tweets. *Id.* at 9–10.

III. LEGAL STANDARD

Under *Daubert*, in assessing the admissibility of expert testimony under Federal Rule of Evidence 702,⁵ the Court must perform “a preliminary assessment of whether the reasoning or methodology underlying the testimony is scientifically valid and of whether that reasoning or methodology properly can be applied to the facts in issue.” *Daubert v. Merrell Dow Pharms. Inc.*, 509 U.S. 579, 592–93 (1993); *see also Kumho Tire Co., Ltd. v. Carmichael*, 526 U.S. 137, 141 (1999) (explaining that *Daubert* standards apply to all expert testimony, not only scientific experts). The Supreme Court has identified a non-exhaustive list of factors that may bear on the inquiry:

- whether the theory or technique can be or has been tested;
- whether the theory or technique has been subjected to peer review and publication;
- the known or potential rate of error with a scientific technique;
- acceptance of the technique by a relevant scientific community;

Daubert, 509 U.S. at 593–94; *see also United States v. Hankey*, 203 F.3d 1160, 1167 (9th Cir. 2000). None of these factors is dispositive and, ultimately, “[t]he inquiry envisioned by Rule 702 is . . . a flexible one” which is focused “solely on principles and methodology, not on the conclusions that they generate.” *Id.* at 594–95. The district court “must act as a ‘gatekeeper’ to exclude junk science that does not meet Federal Rule of Evidence 702’s reliability standards by making a preliminary determination that the expert’s testimony is reliable.” *Ellis v. Costco Wholesale Corp.*, 657 F.3d 970, 982 (9th Cir. 2011) (citation omitted). The trial court “has broad

⁵ “A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if: (a) the expert’s scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue; (b) the testimony is based on sufficient facts or data; (c) the testimony is the product of reliable principles and methods; and (d) the expert has reliably applied the principles and methods to the facts of the case.” Fed. R. Evid. 702.

latitude not only in determining whether an expert's testimony is reliable, but also in deciding how to determine the testimony's reliability." *Id.* (citation omitted).

In this role, the judge is "a gatekeeper, not a fact finder," and the "gate [should] not be closed to [a] relevant opinion offered with sufficient foundation by one qualified to give it." *Primiano v. Cook*, 598 F.3d 558, 568 (9th Cir. 2010). The purpose of the gatekeeping role is to ensure that expert testimony is "properly grounded, well-reasoned and not speculative," but it is not meant to substitute for "[v]igorous cross-examination, presentation of contrary evidence, and careful instruction on the burden and proof [which] are the traditional and appropriate means of attacking shaky but admissible evidence." Fed. R. Evid. 702, Adv. Comm. Notes (2000) (quotation omitted). Thus, "[a]fter an expert establishes admissibility to the judge's satisfaction, challenges that go to the weight of the evidence are within the province of a fact finder, not a trial court judge." *Pyramid Technologies, Inc. v. Hartford Cas. Ins. Co.*, 752 F.3d 807, 814 (9th Cir. 2014).

Because the Court acts as a gatekeeper and not a factfinder, an expert whose methodology is otherwise reliable should not be excluded simply because the facts upon which his or her opinions are predicated are in dispute, unless those factual assumptions are "indisputably wrong." *See Guillory v. Domtar Indus. Inc.*, 95 F.3d 1320, 1331 (5th Cir. 1996) (excluding expert opinion based on a "fictitious set of facts"); *see also* Fed. R. Evid. 702, Adv. Comm. Notes (2000) (explaining that "[w]hen facts are in dispute, experts sometimes reach different conclusions" and a trial court is not "authorize[d] . . . to exclude an expert's testimony on the ground that the court believes one version of the facts and not the other"). Indeed, Rule 702 is "broad enough to allow an expert to rely on hypothetical facts that are supported by the evidence." Fed. R. Evid. 702, Adv. Comm. Notes (2000). "It traditionally falls upon cross-examination to negate the facts or factual assumptions underlying an expert's opinion." *In re MyFord Touch Consumer Litig.*, 291 F. Supp. 3d 936, 967 (N.D. Cal. 2018).

IV. DISCUSSION

As noted above, Tesla advances six arguments why Dr. Hartzmark's methodology is unreliable. Tesla objects to Dr. Hartzmark's use of a leakage model and raises issues relating to

disaggregation, the length of the corrective interval, the purported lack of statistically significant declines, and the inclusion of consequential damages. Mot. at 4–9.

The Court addresses each argument in turn, beginning with Dr. Hartzmark’s use of a leakage model to establish loss causation.

A. Leakage Models May Plausibly Establish Loss Causation in the Ninth Circuit

Dr. Hartzmark uses a leakage model to opine that investor losses were proximately caused by information allegedly misrepresented in the Musk Tweets. Hartzmark Report ¶¶ 13, 49, 206. To determine the theoretical validity of Dr. Hartzmark’s approach, the Court first examines the scope of loss causation in the Ninth Circuit, and then addresses the conceptual underpinnings of Dr. Hartzmark’s leakage model.

1. Loss Causation

“To recover damages in a private securities fraud action, the plaintiff must establish a causal connection between the defendant’s fraudulent conduct and the plaintiff’s economic loss—an element known as loss causation.” *In re BofI Holding, Inc. Sec. Litig.*, 977 F.3d 781, 786 (9th Cir. 2020), *cert. denied sub nom. BofI Holding, Inc. v. Houston Mun. Emps. Pension Sys.*, 142 S. Ct. 71 (2021). “Loss causation is shorthand for the requirement that investors must demonstrate that the defendant’s deceptive conduct caused their claimed economic loss.” *Lloyd v. CVB Fin. Corp.*, 811 F.3d 1200, 1209 (9th Cir. 2016) (internal quotation and citation omitted).

In a fraud-on-the-market case, the plaintiff’s theory of loss causation “begins with the allegation that the defendant’s misstatements (or other fraudulent conduct) artificially inflated the price at which the plaintiff purchased her shares—meaning the price was higher than it would have been had the false statements not been made.” *BofI Holding*, 977 F.3d at 789. But proving loss causation requires more than showing that the plaintiff bought the stock at a price that was artificially inflated. *Dura Pharms., Inc. v. Broudo*, 544 U.S. 336, 342 (2005). “[T]he plaintiff must show that after purchasing her shares and before selling, the following occurred: (1) the truth became known, and (2) the revelation caused the fraud-induced inflation in the stock’s price to be reduced or eliminated.” *BofI Holding*, 977 F.3d at 789 (internal citation and quotation omitted).

As the Ninth Circuit recently explained, the test for loss causation “requires no more than

the familiar test for proximate cause.” *Mineworkers’ Pension Scheme v. First Solar Inc.*, 881 F.3d 750, 753 (9th Cir. 2018) (citing *Dura*, 544 U.S. at 346); accord *Lloyd*, 811 F.3d at 1210. A plaintiff is not required to show that a misrepresentation was the *sole* reason for the investment’s decline. *Nuveen Mun. High Income Opportunity Fund v. City of Alameda, Cal.*, 730 F.3d 1111, 1119 (9th Cir. 2013) (internal citation and quotation omitted) (emphasis in original). Instead, “to satisfy the loss causation requirement, the plaintiff must show that the revelation of that misrepresentation or omission was a substantial factor in causing a decline in the security’s price, thus creating an actual economic loss for the plaintiff.” *Id.* (internal citation omitted). Because there are a “tangle of factors” that may affect stock price, “evidence that certain misrepresented risks are responsible for a loss must reasonably distinguish the impact of those risks from other economic factors.” *Id.* at 1123. “[T]he ultimate issue is whether the defendant’s misstatement, as opposed to some other fact, foreseeably caused the plaintiff’s loss.” *Lloyd*, 811 F.3d at 1210.

In sum: to establish loss causation in this fraud-on-the-market case, Dr. Hartzmark is tasked with showing that the alleged misrepresentations in the Musk Tweets artificially inflated Tesla’s stock price, and that once the market learned the truth, the artificially inflated stock price dropped. *BofI Holdings*, 977 F.3d at 789. And because of the “tangle of factors” that influence stock price, Dr. Hartzmark must also “reasonably distinguish” the loss attributable to the misrepresentations from the loss attributable to other factors. *Nuveen*, 730 F.3d at 1123.

2. Dr. Hartzmark’s Leakage Model

Tesla criticizes Dr. Hartzmark’s use of a leakage model as opposed to a specific-disclosure model. Mot. at 1, 5–6. Dr. Hartzmark opines that the predominant cause of Tesla’s stock price decline flowed from “the continual incorporation of news (or lack thereof) correcting the alleged misrepresentations and/or omissions of the Musk Tweets and the revelations about the Consequential Harm.” Hartzmark Report ¶ 206. In other words, Dr. Hartzmark adopts a theory of loss causation whereby the truth of the funding status gradually “leaked out” over the course of the eleven-day Class Period.

The most common way for plaintiffs to prove that the market learned the truth is to identify one or more corrective disclosures. *BofI Holding*, 977 F.3d at 790. A corrective

disclosure occurs when “information correcting the misstatement or omission that is the basis for the action is disseminated to the market.” 15 U.S.C. § 78u-4(e)(1). A specific-disclosure model for loss causation evaluates the effect of each particular corrective disclosure on the stock price on that specific day. *Glickenhau & Co. v. Household Int’l, Inc.*, 787 F.3d 408, 416 (7th Cir. 2015).

“One problem with the specific-disclosure model is that the information contained in a major disclosure event often leaks out to some market participants before its release.” *Id.* “If this happens, the model will understate the truth’s effect on the price and thus the amount that the stock was overpriced before the truth became known.” *Id.* This is because the specific-disclosure model only measures price changes on the identified disclosure days and not the effect of more gradual exposure of the fraud. *Id.* A leakage model, on the other hand, calculates the difference between predicted returns and actual returns during the class period, assuming an efficient market reaction to more gradual information diffusion. *Id.* In other words, the theory behind a leakage model is that the truth gradually “leaks out” over time.

Tesla suggests that leakage models are disfavored. Mot. at 5–6. While specific-disclosure models are certainly more common, leakage models have been conceptually accepted by the Second, Seventh, and Tenth Circuits.⁶ See *In re Flag Telecom Holdings, Ltd. Sec. Litig.*, 574 F.3d 29, 41 (2d Cir. 2009) (“We do not take issue with the plausibility of Plaintiffs’ “leakage” theory.”); *Glickenhau*, 787 F.3d at 422; *In re Williams Sec. Litigation-WCG Subclass*, 558 F.3d 1130 (10th Cir. 2009); but see *In re the Bear Stearns Companies, Inc. Sec.*, No. 08-MDL-1963, 2016 WL 4098385, at *9 (S.D.N.Y. July 25, 2016) (rejecting leakage model on the basis that it had not achieved general acceptance within the relevant scientific community or been subjected to peer review and publication). Additionally, the Supreme Court has generally recognized that the truth can leak out over time. *Dura*, 544 U.S. at 342 (“But if, say, the purchaser sells the shares

⁶ The Court notes that the particular leakage models at issue in these cases were rejected for other reasons. In *Flag Telecom*, the plaintiffs failed to show that any of the information that leaked into the market revealed the truth with respect to the alleged misrepresentations. *Flag Telecom*, 574 F.3d at 41. In *Glickenhau*, the expert’s leakage model was rejected because it failed to adequately account for the possibility that firm-specific, nonfraud related information may have affected the decline in the relevant period. *Glickenhau*, 787 F.3d at 423. *Williams* rejected the expert’s leakage model because the expert did not show any mechanism for how the truth was revealed. *Williams*, 558 F.3d at 1138.

1 quickly before *the relevant truth begins to leak out*, the misrepresentation will not have led to any
2 loss.”) (emphasis added).

3 The Ninth Circuit has taken a flexible approach to loss causation that recognizes that there
4 are an “infinite variety of ways for a tort to cause a loss.” *First Solar*, 881 F.3d at 753; *see also*
5 *Kui Zhu v. Taronis Techs. Inc.*, No. 19-cv-04529, 2020 WL 1703680, at *6 (D. Ariz. Apr. 8, 2020)
6 (explaining that “Plaintiffs’ theory of a ‘slow leak’ revelation is nuanced, but this Circuit has
7 recognized that there are an infinite number of ways to allege loss causation” and holding that
8 “[t]he allegations in the FAC, viewed together, adequately allege a viable loss causation theory”).

9 In keeping with the Ninth Circuit’s flexible approach to loss causation, to the extent that
10 Tesla argues that leakage models are inherently conceptually unsound, the Court disagrees. So
11 long as Dr. Hartzmark shows that the alleged misrepresentations, as opposed to something else,
12 foreseeably caused Mr. Littleton’s loss, loss causation is satisfied. *See Lloyd*, 811 F.3d at 1210
13 (“[T]he ultimate issue is whether the defendant’s misstatement, as opposed to some other fact,
14 foreseeably caused the plaintiff’s loss.”); *First Solar*, 881 F.3d at 754 (same).

15 Having determined that leakage models are a theoretically viable way to show loss
16 causation in this Circuit, the Court next turns to the specific issues raised by Tesla with regard to
17 Dr. Hartzmark’s methodology.

18 B. The Disaggregation Issues Do Not Render Dr. Hartzmark’s Report Unreliable

19 Tesla raises two arguments regarding disaggregation: first, that Dr. Hartzmark failed to
20 disaggregate the effect of the allegedly false statements from other company-specific information
21 that was released during the Class Period, and second, that Dr. Hartzmark failed to address other
22 potential causes of Tesla’s stock movement. Mot. at 4. The Court briefly summarizes Dr.
23 Hartzmark’s disaggregation analysis and then addresses Tesla’s concerns.

24 1. Dr. Hartzmark’s Loss Causation and Disaggregation Analysis

25 As explained in Section A.1, to establish loss causation, Dr. Hartzmark must show that
26 alleged misstatements were a “substantial cause of the investment’s decline in value,” *Daou*, 411
27 F.3d at 1025, and must “reasonably distinguish” between the loss attributable to the fraud and the
28 loss attributable to “other economic factors,” such as non-fraud-related news and events. *Nuveen*,

730 F.3d at 1123. Dr. Hartzmark has done so.

Dr. Hartzmark engaged in quantitative and qualitative analysis to determine and isolate the Musk Tweets' effect on Tesla's stock price. First, he conducted a minute-by-minute analysis of Tesla's stock price from shortly before the issuance of the first tweet ("Am considering taking Tesla private at \$420. Funding secured.") through the market's close on August 7, 2018, and found that Tesla's stock price shot up 6.37%, which he determined to be statistically significant at the 1% level.⁷ Hartzmark Report ¶¶ 76–77, Appendix 4. Second, he analyzed the price reaction from the close of the market on August 7 through the close of the market on August 17 and found that, after adjusting for market and industry influences, the cumulative return was negative 17.6%, which is statistically significant at the 5% level. *Id.* ¶ 65.

Dr. Hartzmark then engaged in various measures to isolate the impact of any potentially confounding information on Tesla's stock price movements. *Id.* ¶¶ 146–69. Because of a general decline in the market and industry indexes over the Class Period, Dr. Hartzmark removed those market-wide and industry-influences on Tesla's stock price. *Id.* ¶ 146. His calculations resulted in "adjusted" stock prices for each day in the Class Period. *Id.* ¶¶ 147–48; Table 5. He then examined all related news sources and analyst reports, as well as the minute-by-minute results from his event study, to determine whether Tesla's stock price may have been impacted by contemporaneous disclosures of other Tesla-specific, unanticipated, material information that was unrelated to the Musk Tweets or consequential harm from the tweets. *Id.* ¶ 149. In particular, Dr.

⁷ "Significance level" is a term of art used by statisticians when they measure the accuracy of a regression model's estimates using what is called "significance testing." *In re High-Tech Emp. Antitrust Litig.*, No. 11-cv-02509-LHK, 2014 WL 1351040, at *8 (N.D. Cal. Apr. 4, 2014). In conducting significance testing, statisticians determine whether the results are statistically significant enough that they can reject the "null hypothesis" of zero effect, which means that the independent variable being tested has no actual impact on the dependent variable and whatever relationship is shown in the model occurred due to random chance. *Id.* A 1% significance level means that there is no more than a 1% likelihood that one would observe that relationship between the independent variable and dependent variable merely by chance. *Id.* Statistical significance can also be conveyed by use of confidence intervals. "Every confidence interval is the complement of a respective significance level." *Id.* at *11 n.22. A 99% confidence level reflects a statistical significance of 1%. *Id.*

Hartzmark examined the headlines of approximately 2,400 articles published during the Class Period to identify any articles which could contain Tesla-specific information which was unrelated to the Musk Tweets or consequential harm (*i.e.* potentially confounding information). *Id.* ¶¶ 56, 149. Dr. Hartzmark found twelve such news articles. *Id.* ¶ 150; Table 6. Dr. Hartzmark then examined the abnormal returns and statistical significance measures for the one-minute and fifteen-minute intervals following the publication of these articles. *Id.* Based on his statistical analyses and his review of the news articles themselves, he “did not identify any materially, negative, new, unanticipated confounding information” that should be incorporated into the “adjusted” price of Tesla stock. *Id.*; *see also id.* ¶¶ 151–67 (analyzing the twelve potentially confounding news articles).

Because Dr. Hartzmark did not find any confounding information in any of the sources that, in his opinion, would have lowered the stock price, he concluded that the adjusted price reflected the “revelation of the truth in the Musk Tweets and Consequential Harm.” *Id.* ¶ 168. In other words, he determined that no further adjustment of Tesla’s stock price movements was needed after he accounted for market-wide and industry influences on Tesla’s stock price. *Id.* Dr. Hartzmark concluded that the decline in value in Tesla’s stock price resulting from the Musk Tweets and the related consequential harm totaled \$66.67 per share. *Id.* ¶ 169.

2. Disaggregation of Loss Caused by Company-Specific Information

According to Tesla, Dr. Hartzmark’s methodology is fundamentally flawed from the outset because he makes no attempt to isolate the effect of the allegedly misleading information—“funding secured”—from the truthful statement that Musk was “considering taking Tesla private at \$420” per share. Mot. at 4.

Tesla has a point. Dr. Hartzmark included the “considering taking Tesla private at \$420” statement in the Musk Tweets, and he analyzed the effect of the Musk Tweets as a unit, which meant that he did not separate any effect related to the non-false portions of tweets which may have been caused by the \$420 statement. *See* Hartzmark Report ¶ 4 n.8 (defining “Musk Tweets”); *id.* ¶¶ 13, 169, 171 (describing findings with regard to the “Musk Tweets”). Tesla repeatedly pressed Dr. Hartzmark on this issue during his deposition. *See* Hartzmark Depo. at

59:3–5 (“Do you have a view on how the market would have reacted if Mr. Musk had simply tweeted, ‘Am considering taking Tesla private at \$420?’”); *id.* at 143:22-144:3 (asking whether Dr. Hartzmark conducted any analysis to “break[] down” inflation based on any particular August 7 statement); *id.* at 146:2-11 (asking whether Dr. Hartzmark has “any analysis” that breaks the two statements from the 12:48 tweet “apart so that we could determine what damages are attributable to just the second part of the statement being false but not the first”). In response to these questions, Dr. Hartzmark testified that he “was asked that the plaintiff will prove that the defendants misled the market when making certain misstatements, plural . . . regarding the potential to take Tesla private. This series of statements is an interwoven bundle.” *Id.* at 60:3-10; *see also id.* at 146:6-12 (“There’s an interwoven bundle . . . my understanding of the allegations is there’s a series of tweets and that there’s an interwoven bundle there.”); 226:20-22 (“[T]his was an interwoven bundle of information.”); 230:7-15 (“[M]y assumption was it’s an interwoven bundle. That even if what you said is true, that the finder of fact will find that the falsity of a portion of the Musk tweets makes the Musk tweets, as an interwoven basket, a falsity and moved the market and impacted the market because of false information.”). In other words, Dr. Hartzmark assumed that Mr. Musk’s August 7 tweets constituted an “interwoven bundle” and analyzed them accordingly. The Court views this as a fair criticism of Dr. Hartzmark’s opinion. The question is whether it renders Dr. Hartzmark’s opinion inadmissible under Rule 702. For the reasons explained below, the Court concludes that it does not.

First, to the extent that Tesla argues that Dr. Hartzmark relied on an improper assumption, in general such issues are for the jury to assess. “The fact that an expert’s testimony contains some vulnerable assumptions does not make the testimony irrelevant or inadmissible.” *McCurley v. Royal Seas Cruises, Inc.*, 331 F.R.D. 142, 159 (S.D. Cal. 2019) (quoting *Stollings v. Ryobi Techs., Inc.*, 725 F.3d 753, 768 (7th Cir. 2013)); *see also Martin v. F.E. Moran, Inc.*, No. 13-cv-03526, 2017 WL 1105388, at *6 (N.D. Ill. Mar. 24, 2017)) (“[T]here is no need to evaluate an expert’s underlying data or factual assumptions so long as there is a basis in the record supporting the expert’s factual assumptions.”) (internal quotation and citation omitted); *Alaska Rent-A-Car, Inc. v. Avis Budget Grp., Inc.*, 738 F.3d 960, 969 (9th Cir. 2013) (“Shaky but admissible evidence

1 is to be attacked by cross examination, contrary evidence, and attention to the burden of proof, not
2 exclusion.”).

3 Here, there is a basis in the record supporting Dr. Hartzmark’s assumption that the two
4 statements in the 9:48 a.m. tweet form an interwoven bundle. The two statements were published
5 as part of the same tweet and concerned the same topic; and, as Mr. Musk testified at his
6 deposition, he intended for the tweets to be read together. *See* Musk Depo. Tr. at 133:6-9 (“The
7 reason I included the number of 420 - \$420 [*sic*] per share was to make it clear that the funding
8 was secured at that level, but not at some much higher level.”).

9 There is also a factual basis for Dr. Hartzmark’s assumption that the “funding secured”
10 rather than the “Am considering taking Tesla private at \$420” statement caused Tesla’s stock price
11 to jump. As Tesla’s own expert recognized, Mr. Musk had previously expressed his interest in
12 taking Tesla private. *See* Exhibit 378 (Expert Report of Daniel Fischel) ¶¶ 11, 12 (quoting Musk
13 as saying “I wish we could be private with Tesla. It actually makes us less efficient to be a public
14 company” in November 2017). Tesla’s expert also opined that the \$420 potential offer price was
15 “reasonable” because it was “within the range of initial premia” based on over a hundred similar
16 going-private transactions that Professor Fischel analyzed. *Id.* ¶¶ 27–28. There is at least a
17 plausible argument, then, that because Mr. Musk’s desire to privatize Tesla and the \$420 offer
18 price were not new or unexpected pieces of information, the “funding secured” statement is what
19 animated the power of the tweet. Courts have found that a failure to consider some non-fraud-
20 related company-specific news is not grounds for total exclusion under *Daubert* where the expert
21 made some effort to disaggregate other variables. *See, e.g., In re Novatel Wireless Sec. Litig.*, No.
22 08-cv-1689, 2013 WL 12144150, at *8 (S.D. Cal. Oct. 25, 2013) (“[T]he failure to include one of
23 the relevant [non-fraud] variables does not dictate exclusion of the report as unreliable.”); *In re*
24 *Homestore.com, Inc.*, No. 01-cv-11115, 2011 WL 291176, at *8 (C.D. Cal. Jan. 25, 2011) (“[The]
25 expert . . . expressly states that her regression analysis distinguishes between loss attributable to
26 alleged fraud and loss attributable to non-fraud related news and events . . . As a result, [she]
27 makes an attempt to account for other possible causes, and her opinions therefore meet the
28 reliability threshold requirement.”); *S.E.C. v. Leslie*, No. 07-cv-3444, 2010 WL 2991038, at *15

(N.D. Cal. July 29, 2010) (“While [defendant] certainly may argue to the jury that [the expert] did not reliably filter out other confounding variables that would have affected the stock price[,] . . . he has not shown that [the] opinion is so unreliable that it must be excluded.”); *Smilovits v. First Solar, Inc.*, No. 12-cv-0555, 2019 WL 7282026, at *9 (D. Ariz. Dec. 27, 2019) (“Defendants’ criticisms that Feinstein discounted the confounding information and exaggerated the impact of the alleged fraud go to his credibility and the weight of his opinions, not their admissibility.”).⁸ While Dr. Hartzmark did not attempt to disaggregate any price impact from the non-false portions of the August 7 tweet, he did address and disaggregate other potentially confounding variables that could have affected Tesla’s stock price. *See* Section B.1 *supra*; *see also* Hartzmark Report ¶¶ 146–68. Hartzmark’s “failure to include one of the relevant variables does not dictate exclusion of [his] report as unreliable . . . [Tesla’s challenge] goes to the weight of [Hartzmark’s] testimony.” *In re Novatel Wireless Sec. Litig.*, 2013 WL 12144150, at *8.

Finally, the Court notes that neither party articulated a method by which the price impact of “considering taking Tesla private at \$420” could be disaggregated from “funding secured.” Opp. at 5. This underscores that the disaggregation issue goes to weight and not admissibility. *See Baker v. SeaWorld Ent., Inc.*, 423 F. Supp. 3d 878, 934 (S.D. Cal. 2019) (holding that a challenge to an expert’s loss causation analysis based on (among other things) a failure to properly disaggregate goes to weight and not admissibility where defendants do not “suggest a superior approach to disaggregation”).

The Court also rejects Tesla’s related arguments that Dr. Hartzmark fails to disaggregate

⁸ The cases that Tesla cites in its motion are distinguishable. Tesla relies heavily on *REMEC*, where an expert’s report was excluded after the expert failed to account for non-fraud company information, but that was just one of the problems associated with that expert’s report. *See In re REMEC Inc. Sec. Litig.*, 702 F. Supp. 2d 1202, 1273 (S.D. Cal. 2010) (“Dr. Nye makes no attempt to account for other possible causes [in stock price movement], i.e., industry-specific news (for example, if an increase in global sales of defense products due to an increase in U.S. presence in Iraq was announced during the class period), market-specific news (for example, if a 5% decline in stock prices occurred across the market due to an announcement of an expected drop in consumer sales in December), or other measurable macroeconomic variables (for example, the inflation rate and GDP).”). Tesla’s reliance on *Omnicom* is likewise misplaced. *See In re Omnicom Grp., Inc. Sec. Litig.*, 541 F. Supp. 2d 546, 554 (S.D.N.Y. 2008), *aff’d*, 597 F.3d 501 (2d Cir. 2010) (“[T]he event study at best incorrectly identifies several corrective disclosures and at worst fails to identify any at all.”).

truthful company-specific information in other sources, such as an August 13 tweet by Mr. Musk that he was “excited to work with Silver Lake and Goldman Sachs as financial advisors” and the August 16 *New York Times* article (which discussed Mr. Musk’s emotional and physical health). Mot. at 4, 7. From Mr. Littleton’s perspective, Dr. Hartzmark did not find a statistically significant increase from the Silver Lake tweet and Tesla provides no evidence to challenge Dr. Hartzmark’s findings. Opp. at 7 n.4; Hartzmark Report ¶¶ 112–13. As for the information regarding Mr. Musk’s health that was included in the August 16 *New York Times* article, Dr. Hartzmark characterized this information in his report as “previously stated concerns.” Hartzmark Report ¶ 125. To the extent that Dr. Hartzmark contends that such information did not influence Tesla’s stock price because it was not new, this theory is precisely the type of argument which may be explored at cross-examination.⁹

In sum, the Court finds that any issues connected to Dr. Hartzmark’s disaggregation (or lack thereof) with regard to non-fraud and company-specific information go to the weight of Dr. Hartzmark’s opinions, not their admissibility.

3. Disaggregation of Loss Related to Other Causes of Stock Price Movement

Tesla asserts that Dr. Hartzmark’s report is also unreliable because it purportedly “fails to address other potential causes of stock movement.” Mot. at 4. But Tesla does not identify any specific potential cause of stock movement that it contends that Dr. Hartzmark should have addressed. As noted in Section B.1 *supra*, Dr. Hartzmark accounted for the general decline in the market and industry indexes as part of his analysis. *See* Hartzmark Report ¶¶ 147–48. Dr. Hartzmark also examined approximately 2,400 news articles and analyst reports released during the Class Period to determine if any sources contained confounding information. *Id.* ¶¶ 149–50. He found, based on stock price reaction (or lack thereof) that there was none. *Id.* ¶¶ 155–68. Because Tesla has not identified any particular cause of stock movement that it believes Dr. Hartzmark overlooked, the Court denies Tesla’s motion for exclusion on this ground.

⁹ The same goes for Tesla’s complaints regarding Dr. Hartzmark’s analysis of an SEC subpoena. Mot. at 7. Such criticisms go to Dr. Hartzmark’s credibility and the weight of his opinions, not their admissibility. *Smilovits*, 2019 WL 7282026, at *9.

C. Dr. Hartzmark's Corrective Interval Is Not Inappropriate

Fourth, Tesla argues that Dr. Hartzmark's report is unreliable because he selected a corrective interval that runs through August 17, 2018. Mot. at 8. Tesla asserts that this corrective interval is "inappropriate" because Dr. Hartzmark purportedly did not identify any new corrective information on August 17 (or any time after August 13). *Id.*

Tesla is essentially rehashing its first motion in limine seeking to exclude damages evidence after August 13, 2018. *See* Docket No. 450. In Tesla's view, the *New York Times* article does not contain any new corrective information regarding the alleged fraud. Mot. at 8. But the Court has already found that Mr. Littleton may be able to show that the article is at least a partial corrective disclosure.¹⁰ *See* July 29, 2022 Min. Entry at 1.

The Court thus rejects Tesla's theory that Dr. Hartzmark's report is unreliable because he uses a corrective interval that runs through August 17, 2018.

D. Statistically Significant Decline

Fifth, Tesla argues that the Dr. Hartzmark's leakage model is unreliable because it "does not satisfy the requirement of demonstrating a statistically significant decline at the 5% level." Mot. at 8. Tesla's argument rests on the faulty premise that the corrective interval ends prior to August 17. The Court has already concluded that August 17 may be included in the corrective interval. *See* Section IV.C. *supra*; *see also* July 29, 2022 Min. Entry at 1. Tesla does not challenge Dr. Hartzmark's calculations showing that the corrective interval as a whole demonstrates a statistically significant decline due to the stock price decrease on August 17. Hartzmark Report ¶ 65. Tesla's fifth argument is thus mooted by the Court's prior rulings.

¹⁰ As Dr. Hartzmark notes, the *New York Times* article identified that, *inter alia*, "funding was 'far from secure,'" that "no one had seen or reviewed Musk's August 7, 2018 tweet before he posted it" and that the Public Investment Fund "had not committed to provide any cash." Hartzmark Report ¶ 125. Tesla contends that this information had already been revealed by other sources. *See* Docket No. 450 at 6. With regard to the cash commitment, for instance, Tesla asserts that the August 13, 2018 blog post disclosed this information via the following language: "the Managing Director of the Saudi fund . . . has expressed support for proceeding subject to financial and other due diligence and their internal review process for obtaining approvals." *Id.* at 4, 6. The Court is skeptical that this language from the blog post could be interpreted as disclosing the PIF's decision to not commit cash. At least, it cannot so hold as a matter of law for *Daubert* purposes.

For the sake of argument, though, the Court addresses Tesla’s theory that loss causation is limited to statistically significant declines at the 5% level in stock price. Opp. at 7–8. While the Court is aware of district courts in this Circuit which have required such a showing, *see REMEC*, 702 F. Supp. at 1266 (“[T]he decline in stock price caused by the revelation of that truth must be statistically significant.”); *Eng v. Edison Int’l*, No. 15-cv-01478, 2018 WL 1367419, at *3 (S.D. Cal. Mar. 16, 2018) (same), the Court is not convinced that the authorities cited by *REMEC* and *Eng* support such a proposition.¹¹ To be sure, there are cases outside of the Ninth Circuit holding that findings made at the 90% confidence level are not enough. *See, e.g., In re Moody’s Corp. Sec. Litig.*, 274 F.R.D. 480, 493 n.11 (S.D.N.Y. 2011) (noting, in a footnote, that a significant negative return at the 90% confidence level is “below the conventional statistical measure of a 95% confidence level and is therefore not sufficient evidence of a link between the corrective disclosure and the price”); *In re Am. Int’l Grp., Inc. Sec. Litig.*, 265 F.R.D. 157, 187 (S.D.N.Y. 2010), *reversed on other grounds*, 689 F.3d 229 (2d Cir. 2012) (distinguishing between an expert reporting results at the 10% level and drawing conclusions at the 10% level). However, the Ninth Circuit has observed that “[a]s a general matter, so long as the evidence is relevant and the methods employed are sound, neither the usefulness nor the strength of statistical proof determines admissibility under Rule 702.” *Obrey v. Johnson*, 400 F.3d 691, 696 (9th Cir. 2005) (citation omitted).¹² Instead, the question is whether the “statistics offered are sufficiently probative of the ultimate fact in issue, regardless of the statistical significance levels associated with them.” *In re Lithium Ion Batteries Antitrust Litig.*, No. 13-MD-2420 YGR, 2017 WL 1391491, at *5 (N.D. Cal. Apr. 12, 2017) (citing *Contreras v. City of Los Angeles*, 656 F.2d 1267, 1273 (9th Cir. 1981)); *cf.*

¹¹ Both *REMEC* and *Eng* rely on *Metzler Inv. GMBH v. Corinthian Colleges, Inc.*, 540 F.3d 1049 (9th Cir. 2008), but *Metzler* does not discuss statistical significance (or statistics at all)—*Metzler* merely states that “a complaint must allege that the defendant’s ‘share price fell significantly after the truth became known.’” *Id.* at 1062 (citing *Dura*, 544 U.S. at 347); *see also Kain v. ACM Rsch., Inc.*, No. 20-cv-09241-VC, 2021 WL 5998396, at *2 (N.D. Cal. Dec. 20, 2021) (noting disagreement in caselaw regarding whether loss causation can be alleged where there are “relatively miniscule fluctuations in the stock price after the alleged disclosures”).

¹² While *Obrey* addressed a claim of discrimination under Title VII, the Court sees no reason why *Obrey*’s discussion of statistical significance under Rule 702 would not apply with equal force in a securities case.

Kadas v. MCI Systemhouse Corp., 255 F.3d 359, 362 (7th Cir. 2001) (describing use of “[t]he five percent test” to determine statistical significance as “arbitrary”). In this vein, district courts have denied *Daubert* motions based on a purported lack of statistical significance. *See, e.g., In re High-Tech Employee Antitrust Litig.*, 2014 WL 1351040, at *15 (“The Court finds that the fact that these two variables are not statistically significant at the 1%, 5%, and 10% levels goes to the weight, not the admissibility of expert’s model . . . [even if those] are the conventional levels statisticians typically use.”); *In re Lithium Ion Batteries Antitrust Litig.*, 2017 WL 1391491, at *11 (denying *Daubert* motion based on confidence levels because “courts have generally found that a statistical confidence level is more a matter of weight than admissibility” and “all or nearly all” of expert’s analyses “result in estimates statistically significant at either the 90% or 95% confidence levels, both widely accepted as valid for evidentiary purposes”); *see also Apple iPod iTunes Antitrust Litig.*, No. 05-cv-0037-YGR, 2014 WL 4809288, at *7 (N.D. Cal. Sept. 26, 2014) (rejecting *Daubert* motion based in part on expert’s purported lack of “statistically significant results”); *Cook v. Rockwell Int’l Corp.*, 580 F. Supp. 2d 1071, 1102 (D. Colo. 2006) (same).

In any event, because Dr. Hartzmark found a statistically significant decline, the Court need not reach the question of whether such showing was needed. Tesla’s argument that Dr. Hartzmark’s model fails for lack of a statistically significant decline is rejected.

E. Consequential Damages

Finally, Tesla argues that Dr. Hartzmark improperly includes “consequential effects” in his assessment of the artificial inflation in stock price. Mot. at 8–10. Dr. Hartzmark attributed a significant amount of inflation to “consequential harm,”¹³ which he defined as the “foreseeable consequential effects caused by disclosures following the Musk Tweets exposing their falsity,” such as “Tesla’s reduced management credibility and revealed failures of corporate governance and internal controls,” “Tesla’s increased legal risks,” and “scrutiny from [SEC] investigations.”

¹³ The “consequential harm” that Dr. Hartzmark describes is distinct from the “consequential damages” traditionally available in contracts law and occasionally awarded in securities cases where a plaintiff incurs damages in an attempt to mitigate the damage caused by the defendant’s fraud. *See, e.g., Ambassador Hotel Co. v. Wei-Chuan Inv.*, 189 F.3d 1017, 1030 (9th Cir. 1999) (discussing consequential damage award of \$0.5 million “because Ambassador spent that amount in an attempt to mitigate the harm it suffered”).

1 *Id.* ¶¶ 4, 13, 33, 54.

2 As a factual matter, these “consequential effects” appear to be borne out by the record. Dr.
3 Hartzmark found that during the 11-day Class Period, there was a considerable amount of news
4 and information released relating to the following topics: (1) lawsuits filed against Tesla and Mr.
5 Musk related to the Musk tweets; (2) information about the SEC probing and investigating the
6 accuracy of the Musk tweets; (3) apparent failure to comply with NASDAQ rules; (4) lapses in
7 internal controls that purportedly existed in Tesla, such as the failure to review the Musk Tweets
8 before they were published; (5) lapses in corporate governance at the Company; and (6) loss in
9 credibility and reputation of Tesla management and the Board of Directors. *Id.* ¶ 55; *see also id.*
10 ¶¶ 67–133 (describing information released throughout each of day of the Class Period);
11 Appendix 3 (summarizing news related to Musk Tweets and consequential harm).

12 The economic theoretical basis for such consequential effects also appears to be well-
13 founded. Dr. Hartzmark cited academic scholarship supporting his view that the reputational harm
14 to Tesla that occurred during the Class Period as a result of the Musk Tweets would have a
15 quantifiable effect on a corporation’s stock price. *Id.* ¶¶ 41–46. Dr. Hartzmark noted, for
16 instance, scholarship from 28 different papers measuring the share price impact related to the
17 revelation of financial misconduct. *Id.* ¶¶ 42 & 42 n.69. Dr. Hartzmark’s authorities explained
18 how the revelation of misconduct affects a firm’s cost and operations: such effects included, for
19 instance, customers changing the terms of doing business because of a perception of an “increased
20 probability of cheating”; managers diverting resources to assist with an investigation; and
21 companies being required to “implement new monitoring and control policies, increasing the cost
22 of operations.” *Id.* ¶ 44. Dr. Hartzmark also cited research showing that the stock market reacts
23 negatively to failed attempts to go private, as demonstrated by unsuccessful management buyouts.
24 *Id.* ¶ 45. After describing this body of scholarship, Dr. Hartzmark concluded that:

25
26 In summary, academic research supports the conclusion that if
27 Plaintiff is successful in proving that the Defendants allegedly
28 misled the market by making misstatements concerning taking Tesla
private, its subsequent revelation would communicate important
information concerning the lack of adequate internal controls or

corporate governance mechanisms in place to prevent such misstatements, and there would be a material impact on the value of the corporation and foreseeable investor losses. In other words, there would be Consequential Harm upon the failure of the actions proposed in the Musk Tweets stemming from a loss of management credibility and ongoing distrust in Tesla's public statements.

Id. ¶ 46.

Tesla does not challenge the factual theory that an investigation by the SEC or shareholder lawsuits may affect a corporation's stock price. Instead, Tesla asserts that such damages are "not permitted under the circumstances here." Mot. at 9. Tesla points out that courts have generally used an "out-of-pocket" measure of damages in securities fraud actions, which allows a plaintiff to recover the difference between what the buyer paid and what the buyer would have paid had there been no fraudulent conduct. *Id.* at 9 (citing *Chassin Holdings Corp. v. Formula VC Ltd.*, No. 15-cv-02294-EMC, 2017 WL 66873, at *13 (N.D. Cal. Jan. 6, 2017) and *Affiliated Ute Citizens of Utah v. United States*, 406 U.S. 128, 155 (1972)).

Tesla is correct that Mr. Littleton cannot recover any damages for a decline in price that is attributable to factors *unrelated to the fraud*. The Ninth Circuit has made clear that:

Even if the true facts concealed by the fraud are revealed to the market, the plaintiff must still show that the disclosure of the truth caused the company's stock price to decline. For a subsequent decline in price could be attributable to factors unrelated to the fraud, such as a change in economic circumstances or investor expectations. *Dura Pharmaceuticals*, 544 U.S. at 343. The securities laws do not protect against ordinary investment losses of that sort. *See id.* at 345.

BofI, 977 F.3d at 790. However, the "consequential effects" that Dr. Hartzmark references in his report are not "unrelated to the fraud." Rather, according to Dr. Hartzmark, they are the "foreseeable consequential effects caused by disclosures following the Musk Tweets exposing their falsity," such as "Tesla's reduced management credibility and revealed failures of corporate governance and internal controls," "Tesla's increased legal risks," and "scrutiny from [SEC] investigations." *Id.* ¶¶ 4, 13, 33, 54. These effects are, according to Dr. Hartzmark, reflected in Tesla's stock price. *Id.* ¶¶ 207–08 & 208 n.300. In other words, Dr. Hartzmark opines that the Musk Tweets had both "direct effects" and "consequential effects" on Tesla's stock price—both

1 components are included in his measure of out-of-pocket damages, because he opined that both
 2 components are causally connected to the disclosure of the alleged falsity of the Musk Tweets. *Id.*
 3 ¶¶ 13, 169.

4 According to Tesla, “consequential damages” arising from “consequential effects” such as
 5 shareholder lawsuits or negative news coverage are not recoverable in a securities class action. *Id.*
 6 at 8–9. But the cases that Tesla cites deal with the question whether certain events can constitute
 7 corrective disclosures, not whether the harm arising from such events is recoverable. *See*
 8 *Teachers’ Ret. Sys. Of LA v. Hunter*, 477 F.3d 162, 186–88 (4th Cir. 2007) (rejecting loss
 9 causation analysis where, contrary to plaintiff’s theory that a lawsuit “finally revealed the ‘true
 10 facts’ of fraud,” the complaint contained no new information regarding the fraud); *In re Omnicom*
 11 *Grp., Inc. Sec. Litig.*, 597 F.3d at 511–12 (rejecting loss causation analysis where negative media
 12 coverage did not contain any new information and thus could not serve as a corrective disclosure).
 13 Hence, these cases are inapposite to the question at hand.

14 In support of Dr. Hartzmark’s consequential damages, Mr. Littleton cites to *Waggoner v.*
 15 *Barclays PLC*. There, the Second Circuit upheld a damages model that included damages related
 16 to a subsequent regulatory action by the New York Attorney General and ensuing fines. *See* 875
 17 F.3d 79, 106 (2d Cir. 2017). *Waggoner* reasoned that these damages were part of the harm
 18 experienced by the plaintiffs:

19 The Plaintiffs’ allegations are that shareholders of Barclays’ ADS
 20 were harmed when statements that maintained the impression that
 21 Barclays was protecting its LX investors were shown to be false,
 22 thereby exposing Barclays’ business practices and culture, and
 23 causing a substantial drop in share price. Their damages model
 directly measured that harm by examining the drop in price that
 occurred when the New York Attorney General’s action revealed
 ongoing problems related to Barclays’ management. [...]

24 Investors were concerned with lack of management honesty and
 25 control because, as had happened in the past following the LIBOR
 26 scandal, such problems could result in considerable costs related to
 27 defending a regulatory action and, ultimately, in the imposition of
 substantial fines. Thus, the regulatory action and any ensuing fines
 were a part of the alleged harm the Plaintiffs suffered, and the failure
 to disaggregate the action and fines did not preclude class
 certification.

28 *Id.* Mr. Littleton also cites *Baker*, where the expert attributed damages based on harm to the

1 “corporate brand and corporate reputation,” *Baker*, 423 F. Supp. 3d at 908, and *Vivendi*, where the
2 court found that concerns about corporate management could be recoverable. *In re Vivendi*
3 *Universal, S.A. Sec. Litig.*, 634 F. Supp. 2d 352, 371 (S.D.N.Y. 2009).

4 Tesla responds that these cases are distinguishable because none of these cases involved a
5 situation “where the purported ‘consequential’ or ‘collateral’ effects depend on the alleged fraud
6 occurring.” Docket No. 467 at 1. Tesla observes that, in each of the three cases cited by Mr.
7 Littleton, the harm experienced by the company would have occurred had the truth been disclosed
8 originally, rather than the alleged misstatements. *Id.* Tesla contends that this fact distinguishes
9 those cases from the instant matter, where the consequential harm would not have occurred had
10 Mr. Musk not allegedly misrepresented the status of the funding for the privatization transaction.
11 *Id.* But Tesla does not explain why this distinction matters for purposes of loss causation or
12 damages.

13 In the Court’s view, insofar as the “consequential effects” are *proximately caused* by the
14 Musk Tweets, these damages may be recovered under federal securities law. Causation is
15 fundamental to recoverability. *See* 15 U.S.C. § 78u-4(b)(4) (“In any private action arising under
16 this chapter, the plaintiff shall have the burden of proving that the act or omission of the defendant
17 alleged to violate this chapter caused the loss for which the plaintiff seeks to recover damages.”).
18 And the Ninth Circuit has made clear that the touchstone for loss causation is proximate cause.
19 *See First Solar*, 881 F.3d at 751–52 (“[T]he correct test for loss causation under the Securities
20 Exchange Act of 1934 . . . [is] a general proximate cause test [.]”); *Lloyd*, 811 F.3d at 1210
21 (“[L]oss causation is simply a variant of proximate cause . . .”). “The ultimate issue is whether the
22 defendant’s misstatement, as opposed to some other fact, foreseeably caused the plaintiff’s loss.”
23 *Lloyd*, 811 F.3d at 1210. Tesla has not cited any convincing authority negating the application of
24 proximate cause under the Securities Exchange Act, a deeply rooted legal concept well-established
25 in the law when the Act was enacted. *Cf. Palsgraf v. Long Island R. Co.*, 248 N.Y. 339, 348
26 (1928) (Andrews, J., dissenting) (“We deal in terms of proximate cause . . .”); *Aetna Ins. Co. v.*
27 *Boon*, 95 U.S. 117, 133, (1877) (“The proximate cause, as we have seen, is the dominant cause,
28 not the one which is incidental to that cause, its mere instrument, though the latter may be nearest

1 in place and time to the loss.”); *Peters v. Warren Ins. Co.*, 39 U.S. 99, 101 (1840) (“We do not
2 undertake to say that there are no contracts in which the remota causa spectatur, but certainly the
3 law of insurance looks only at the proximate cause.”) (internal citation omitted).

4 The Court concludes that, so long as the “consequential effects” that Dr. Hartzmark
5 observes are proximately caused by the Musk Tweets, these effects may be asserted as damages.
6 Given the short span of time in which these incidents occurred, the relatively clear chain of
7 causation, and the allegedly measurable scope of these damages, it may well be that the jury will
8 determine that these consequential effects are a logical and foreseeable consequence of the Musk
9 Tweets and thus properly included as damages. Of course, Tesla is free to argue to the jury that
10 these consequential effects are too distant or removed to be proximate and recoverable. However,
11 Dr. Hartzmark’s inclusion of these consequential damages does not render his report unreliable
12 and excludable under Rule 702.

13 In sum, Dr. Hartzmark’s inclusion of consequential damages does not include “factors
14 unrelated to the fraud.” His out-of-pocket damages analysis plausibly concludes that the
15 difference between what the buyer paid and what the buyer would have paid had there been no
16 fraudulent conduct amounted to \$66.67 per share, based on the direct and proximate cause of the
17 Musk Tweets. Hartzmark Report ¶¶ 13, 169, 171–72. Tesla’s critiques of how Dr. Hartzmark
18 calculated consequential harm, *see* Mot. at 10, may be explored during cross-examination. It is
19 not a basis to exclude his report under Rule 702.

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1 **V. CONCLUSION**

2 For the foregoing reasons, the Court **DENIES** Tesla's motion to exclude the opinions of
3 Dr. Hartzmark. Dr. Hartzmark's methodology is sufficiently reliable to satisfy Rule 702. Tesla's
4 criticisms of Dr. Hartzmark's conclusions go to his credibility and the weight of his opinions, not
5 their admissibility.

6 This order disposes of Docket Nos. 451 and 454.

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8 **IT IS SO ORDERED.**

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10 Dated: October 13, 2022

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14 EDWARD M. CHEN
15 United States District Judge
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United States District Court
Northern District of California